BOREAL INSTITUTE
LIBRARY

STUDY
ON
NORTHERN DEVELOPMENT

Rec'd: June 2/77
Order No.:
By: Gift
No.: Professor Bond.

POLAR PAM 657
POLARPAM

26518

Pam:330.02:(*41) SND

HYPOTHESIS

The pace of development will in large measure be set by a few large projects which, while they will dwarf other ventures, will catalyze developments in other areas (eg. Transportation, communications)

AIM OF THE STUDY

It is proposed to investigate the consequences for Canada of northern development as perceived through an investigation of the impacts of particular major projects - projects which are rich in issues (see next figure)

The study would also provide a methodology- an approach- to be used in future to investigate in a comprehensive manner other projects as yet to be identified.

TABLE 1

SOME POLICY CONCERNS SURROUNDING MAJOR NATURAL RESOURCES DEVELOPMENT PROJECTS IN THE NORTH

PROJECTS \ CONCERNS	TECHNOLOGICAL	ENVIRONMENTAL	ECONOMIC	SOCIAL	POLITICAL
1) Mackenzie Delta: oil and gas exploration and development including the possibility of oil and gas pipeline	a) extraction and pipeline technology in a harsh environment	a) environmental impact of technology	a) financing	a) native land claims	a) northerners want more say in decision-making
	b) safety standards	b) town planning	b) impact on Canadian economy	b) participation in development by northerners	b) jurisdictional difficulties (?) re: pipeline
	c) particular support technologies (e.g.- transportation)	c) contingency planning (eg.spills)	c) participation of Canadian industry	c) impact on traditional way of life	c) international boundary dispute (offshore Alaska, Yukon)
	d) life support systems (e.g.- sanitation)	d) environmental impact of alternative transportation technologies (e.g.- rail, air, sea)	d) royalties	d) problems related to isolation	d) enforcing the Arctic Waters Pollution Prevention Act
	e) under-ice technology				e) adequacy of regulations
2) Arctic Islands: oil and gas exploration and development including the possibility of a gas pipeline	same as (1) above in a harsher environment	same as (1) above in a harsher environment	same as (1) above	same as (1) above	same as above plus possible dispute over Greenland - Canadian territorial sea
3) Mineral Resources Extraction a) Iron Ore - Baffin Island b) Zinc - Baffin Island c) Lead-zinc- Little Cornwallis Island	a) mining technology in a harsh environment b) ice-breaking ore carriers c) Canadian capability	a) environmental impact of mining b) town planning	same as (1)above	same as (1)above What happens after resources are exhausted?	value added in Canada or abroad?
4) Alberta-Athabasca Tar Sands : oil extraction	a) extraction technology b) development of Canadian capability	same as (3) above	same as (1) above plus regional impact (i.e.- Edmonton)	a) permanent or transitory settlement	possible federal provincial conflicts (e.g.- marketing)
5) Quebec-James Bay Hydro Development	a) high voltage transmission b) maintenance of Canadian capability.	a) environmental impact with particular emphasis on extent of flooding	a,b,and c, above plus international sales	resettlement of actives as well as (1) above	possible complications out of sales to U.S.
6) Labrador Offshore: Petroleum exploration	a) offshore oil extraction technology b) development of Canadian capability c) technology for ice-infested waters d) alternative transportation modes (pipeline, sea) e) logistics	a) environmental impact b) contingency planning (e.g. spills)	same as (1) above and impact on N.F. economy	a) will N.F. become a "have" province? b) conflict with existing way of life (e.g.- fishing)	a) jurisdictional dispute between N.F. and Federal Government b) adequacy of regulations

SOME UNIQUE FEATURES OF THE STUDY

- the study will address itself to issues surrounding the pacing of development in the North

- the study will focus on decision-making processes

- the definition of the "North" to be used is one which Transcends the 60th paralled (see following figure)

FIGURE 1

THE CANADIAN NORTH
Hudson Bay
British Columbia
Alberta
Saskat-chewan
Prince Rupert
Goose Bay
Labrador
Sept-Iles
0 400 800 Miles
0 400 800 1200 Kilometres

STUDY APPROACH: Two Fold (!)

A) Historical Overview

1. Political Economy dealing with such issues as

- Major shifts in policy at both the federal and provincial levels

- Identification of major issues which emerge concerning northern development and how attempts to resolve these issues have been made

- A description of the influence of external factors on northern development. These are factors emanating from either Southern Canada or the international sphere

- A description of the northern policy of other northern countries and the identification of areas where Canada could well learn from others.

2. Science, Technology and the Environment dealing with things as

- A description of the contribution which science and technology have made towards solving some of the problems in the North. (The documentation for Mount Gabriel Conference was identified as a good source of material for this.)

- A statement on the resources of the North, that is, proven potential resources of the North

- A description of specialized needs in the North, e.g. eco-systems and way of life

- An identification of areas where science and technology can contribute to an orderly development of the North.

3. Case Studies of Past Developments in places which would essentially describe lessons learned from such selected resource developments projects as Churchill Falls; Rankin Inlet; Mackenzie Highway; and Thompson, Manitoba.

4. Social Issues which cut across many of the areas described above.

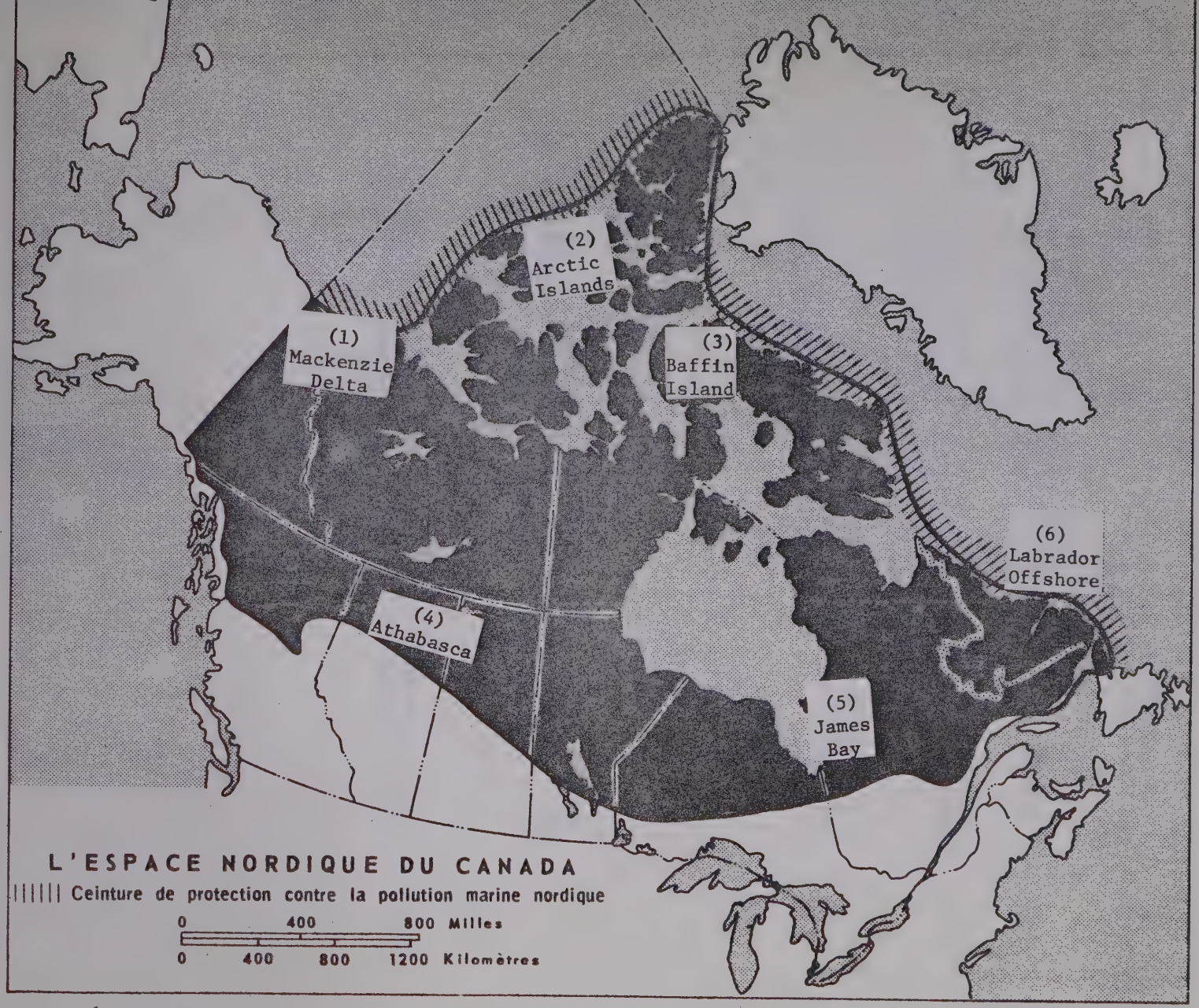
B) SIX FUTURE ORIENTED CASE STUDIES

(see following page)

The decision-making processes surrounding each project would be described, and by determining the state-of-play associated with each project, the Study could gain an appreciation of the interplay among the actors, the information base available for decision-making, the timing of each project, and the alternatives suggested to reach a given objective. This would lead to the identification of "blind spots" in the information base, of institutional problems, and of the requirements for common services. This approach will shed light on such policy concerns as: What are the relative weights of the actors? Is the information base adequate for decision-making? What new technology is required? What are the manpower requirements and what training programs are required? How will northerners participate? What governmental services are required to support such ventures and at what cost? Are there any jurisdictional problems? What R&D priorities emergy in view of the timing of the various projects? What alternatives are there to reach a given goal, and are they being considered?

C) SYNTHESIS

The second phase of the Study will synthesize the data and present a horizontal overview along such themes as environmental problems, transportation, legal problems, and town planning. Ultimately, the Study will develop a statement on issues which are basic to northern development. By combining a historical overview with detailed project analysis, it is hoped that the Study will provide a review of policy concerns related to northern development that will serve as a sound basis to assist the decision-makers.



L'ESPACE NORDIQUE DU CANADA

|||||| Ceinture de protection contre la pollution marine nordique

0 400 800 Milles

0 400 800 1200 Kilomètres

Centre d'Études Nordiques, Québec

Louis - Edmond Hamelin

A RATIONALE FOR THE CASE STUDIES

a) all are projects of such a magnitude that a large number of policy concerns would emerge.

b) the geographical distribution is such that policy concerns particular to different environments (e.g. - High-Arctic, Sub-Arctic, offshore) would be covered.

c) the projects deal with three important natural resources exploitation activities; i: petroleum exploration and exploitation; ii mineral extraction; iii: hydropower development;

d) the timing of the various projects differ: i.e.- certain policies adopted for one project could conceivably apply to others.

THE METHOLOGY

In order to have all the case studies on a common basis for comparative purposes, it is suggested that the methodology developed by M. Gibbons and R. Voyer (*)

---

* M. Gibbons and R. Voyer; A Technology Assessment System, Science Council Background Sutdy No. 30 March 1974.

Date Due

26518

Pam:
330.02:(*41)
SND

Study on northern development.

AUTHOR

TITLE

DATE LOANED	BORROWER'S NAME	DATE DUE

26518

Pam: 330.02:(*41) SND

Study on northern development.

#26518

Boreal Institute for Northern
Studies Library
CW 401 Bio Sci Bldg
The University of Alberta
Edmonton, AB Canada T6G 2E9

University of Alberta Library
0 1620 0328 4286